

### Remarks

This is in response to the non-final Office Action mailed July 8, 2005 (the "Office Action"). Applicant has hereinabove requested the cancellation of claim 17. Applicant has also requested the addition of new claims 18 and 19. These new claims do not include new matter and are fully supported by the written description and drawings (FIG. 2).

The Office Action indicated that claims 3 and 11 were objected to as being dependent upon a rejected base claim, but otherwise allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 17 was rejected under 35 U.S.C. § 102(b) in view of European Patent Application No. 0322958 to Thomas ("Thomas '958"). Applicant has hereinabove requested the cancelled of claim 17. No additional comments regarding claim 17 are believed necessary at this time.

Claims 1, 2, 4-10 and 12-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Thomas '958 in view of United States Patent No. 4,342,538 to Wolford et al ("Wolford '538) or United States Patent No. 5,551,708 issued to Vesey et al ("Vesey '708"). Applicant respectfully traverses the rejection of these claims.

Applicant respectfully submits that the cited prior art references are insufficient to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. MPEP 2143. Second, there must be a reasonable expectation of success. *Id.* Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *Id.*

Applicant respectfully submits that the prior art of record fails to establish the first, second and third criteria. There is no basis for the combination of prior art references suggested by the Examiner. Even if a motivation to combine the references could be demonstrated, the combination of prior art references proposed by the Examiner would fail to yield a successful combination. Lastly, the combination of prior art references cited by the Examiner fails to teach each of the claimed limitations.

A. There is No Motivation to Combine the Cited References

In the Office Action, the Examiner stated:

“Thomas et al [teach] a submersible pumping system for pumping wellbore fluid. A motor 11, a pump assembly 10 connected to the motor and a shroud 20 connected to the pump assembly are provided. The shroud has a connection end (figure 2A[]) and an intake end (figure 2B). As seen in figure 1, the shroud encompasses the motor. A sealing ring (unnumbered) seen in figures 2A and 4 prevents wellbore fluid from entering the shroud at the connection end. Thomas discloses all of the claimed features except for a retaining ring that holds the sealing ring in place. While it is considered probable that Thomas et al has some means for holding or fixing the shroud 20 with the sealing ring to the pump intake, both Wolford et al and Vesey et al teach that it is known to attach shrouds to shafts with the use of sealing rings and retaining rings. It would have been considered obvious to provide Thomas et al with a retainer ring to hold the sealing ring and shroud in place as taught by either Wolford et al or Vesey et al since some means of attaching the shroud to the pump shaft must be present and Wolford and Vesey teach that retaining means to attach to shrouds with sealing rings to shafts is one known way of attachment.” (Office Action, pages 3-4, emphasis added).

Thus, the Office Action admits that the primary reference fails to teach a “retaining ring” that holds the “sealing ring” in place. To cure this deficiency, the Examiner offers the Wolford ‘538 and Vesey ‘708 patents, both of which are directed to mechanical seals. The motivation offered for combining the Wolford ‘538 or Vesey ‘708 patents with the Thomas ‘958 application resides in the Examiner’s contention that “some means of *attaching the shroud to*

*the pump shaft must be present* and Woford and Vesey teach that retaining means to attach to shrouds with sealing rings to shafts is one known way of attachment.”

Significantly, the present application does not disclose or claim a “pump shaft.” Instead, the present application is directed to a shroud configured to be connected external to a downhole pumping system. The claimed shroud is connected externally to a pump assembly – not to an internal pump shaft. Because the present application does not claim, or even disclose, a “pump shaft,” there is no motivation to combine the Woford ‘538 and Vesey ‘708 references with the Thomas ‘958 application.

#### B. No Likelihood of Success

Even if the motivation to combine the cited references could be established, it would be impossible to successfully combine the prior art references cited by the Examiner. Although both references include components referred to as “shrouds,” these components are completely unrelated to the shrouds connected to the exterior of downhole pumping systems.

Both Woford ‘538 and Vesey ‘708 are directed to mechanical seals for use on rotating shafts. The shroud (16) of Woford ‘538 houses a mechanical seal on a shaft (11) adjacent an impeller (15) inside a centrifugal pump (10). Similarly, the “sleevelike” shroud (22) of Vesey ‘708 is a portion of a rotor assembly (18) which is nonrotatably secured to a rotating shaft (13). In contrast, the present application is not directed at a mechanical seal. The shroud 128 of the present application partially encapsulates an entire downhole pumping system, which may be several hundred feet long. The shroud 128 is secured to a pump intake 122, not a rotating shaft. Beyond the common use of the term “shroud,” there is no similarity between the shrouds in the mechanical seals taught by Woford ‘538 and Vesey

'708 and the shroud connected to the downhole pumping system of the present application. It would be impossible to secure the shroud of the present application using the same components used to attach the shrouds of the mechanical seals of Welford '538 and Vesey '708.

C. The Combination of Prior Art References Fails to Disclose Each Limitation

Dependent claims 4 and 12 are directed to a “sealing ring formed of an elastomer material.” In the Office Action, the Examiner indicated that the “unnumbered sealing ring” of Thomas '958 is “an elastomer as shown by the cross-hatching.” Applicant is not aware of the cross-hatching convention followed by the European Patent Office (EPO). Applicant submits, however, that according to the Manual of Patent Examining Procedure Section 608.02, the cross-hatching used for the “unnumbered ring” corresponds to metal – not an elastomer. At the United States Patent and Trademark Office, the cross-hatching used to represent a section of synthetic resin or plastic (an elastomer) would be characterized by a series of alternating thick and thin lines angled at approximately 45°. The cross-hatching used to represent the “unnumbered sealing ring” appears to be of consistent thickness, which corresponds to metal – not an elastomer. The Applicant would appreciate any information the Examiner can provide to support the contention that the cross-hatching used for the “unnumbered sealing ring” of Thomas '958 denotes an elastomer material.

For the foregoing reasons, Applicant submits that independent claims 1 and 9 are patentable in view of the combination of prior art patents cited in the Office Action. Applicant therefore respectfully requests that the rejection of these claims, and those claims depending therefrom, be withdrawn. This is intended to be a complete response to the First

Office Action mailed July 8, 2005. The Examiner is invited to contact the attorneys listed below should any questions arise concerning this response.

Respectfully submitted,

By: 

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